

September 28, 2006

Mr. Walter Washington, Jr.
Chief, Maryland Section Southern
U.S. Army Corp of Engineers
Baltimore District
P.O. Box 1715
Baltimore, MD 21203 - 1715

Attn: Maria Lasek

Re: *Formal Section 7 Consultation Initiation; CENAB-OP-RMS (BLACKWATER CROSSING LLC) 06-63317-7, Dorchester County, MD*

Dear Mr. Washington:

This document transmits the Fish and Wildlife Service's (Service) biological opinion based on our review of the referenced project and its effects on the Delmarva fox squirrel (*Sciurus niger cinereus*) in accordance with section 7 of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Your request for formal consultation, dated August 17, 2006, was received on August 28, 2006.

This biological opinion is based on information provided in the May 26, 2006 project plat (revised June 26, 2006), the July 13, 2006 biological evaluation, field investigations, and other sources of information. A complete administrative record of this consultation is on file at the Chesapeake Bay Field Office in Annapolis, Maryland.

I. CONSULTATION HISTORY

The consultation history is provided in Appendix A.

II. BIOLOGICAL OPINION

DESCRIPTION OF PROPOSED ACTION

The proposed project consists of permanently impacting approximately 1,970 square feet of nontidal wetlands and temporarily impacting approximately 561 square feet of tidal wetlands for the construction of a residential subdivision with attendant features and improvements to Maple Dam Road. The proposed project is located on MD Route 16, Maple Dam and Stone Boundary Roads in wetlands adjacent to and part of the tributary headwaters of Maple Dam Branch of the Little Blackwater River within the City of

Cambridge, Dorchester County, Maryland (Map 1).

Blackwater Crossing LLC has proposed to construct 21 single-family detached lots, 330 condos/apartments, 443 town homes, 6 stormwater management ponds, two commercial retail centers, a community center, community park facilities, and associated infrastructure. The development is located within the existing corporate limits of the City of Cambridge and is served by public water, sewer, and natural gas utilities. The project site consists of approximately 132 acres zoned as GC (General Commercial), R-3 (Residential multi-family), and R-1 (Residential single family) (Map 2).

The property currently consists of open fields on the central and western portions of the property, and wooded areas and an open field on the eastern portion of the property. As described in the 2004 Delmarva fox squirrel trapping report, the 26.43 acre forested parcel on the property consist almost entirely of red oaks (*Quercus rubra*), white oaks (*Quercus alba*), red maple (*Acer rubrum*), and sweetgum (*Liquidambar styraciflua*) of varied ages. A few mature pine trees are scattered throughout. The understory dispersion varies from moderate to heavy, and is composed of greenbriar (*Smilax rotundifolia*) and pepperbush (*Clethra alnifolia*). On site forested areas have been classified by the U.S. Fish and Wildlife Service as Delmarva fox squirrel habitat. The forested area of the site does not lie within areas designated as Chesapeake Bay Critical Areas.

Proposed permanent project impacts to Delmarva fox squirrel (DFS) habitat involve 1.82 acres of clearing and 5.79 acres of degradation. Development will be largely restricted to non-forested areas, and any forest clearing will be completed between May 16 and December 31 of any year. Storm water management facilities for a portion of the project area were designed in a configuration that places these wet pond facilities in between the residential development and the areas identified as Delmarva fox squirrel habitat. Compensation for impacts to this endangered species is proposed through the preservation of on- and off-site Delmarva fox squirrel habitat. The existing habitat on site has been placed in a Forest Conservation Easement that has been recorded in the land records of Dorchester County, Maryland (Map 3). Off-site habitat preservation will most likely occur within a Service-approved mitigation bank that will be established on Egypt Road through a conservation easement with a third party land trust.

The action area for this project is defined as all forested areas, and areas within 150 feet of forest, within the project property boundary as defined by Tax Map 309, Parcel 6002 (Map 4). No impacts extend off-site.

STATUS OF THE SPECIES/CRITICAL HABITAT

Species /Critical Habitat Description -- Delmarva fox squirrels are large, heavy-bodied tree squirrels with full, fluffy tails. The DFS is a subspecies of fox squirrel (*Sciurus niger*), a species found throughout the eastern United States. The DFS resembles the gray squirrel (*Sciurus carolinensis*), however, gray squirrels are smaller, their tails are not as full, and their dorsal area is not as uniformly colored as DFS. Fox squirrels are more cursorial, less agile, slower, and more deliberate in their movements than are gray squirrels (Dozier and Hall 1944). When a fox squirrel moves from one tree to another, it usually descends to the ground rather than leaping from tree to tree as do gray squirrels.

In 1967, the DFS was listed as a federally endangered species due primarily to its disappearance from 90% of its former range. The dramatic decrease of this species is attributed to habitat loss resulting from forest clearing and changing land use patterns throughout its range (Taylor 1973), and possible over-hunting in the past. No critical habitat has been designated for this species.

Life History of the Species -- The Delmarva fox squirrel inhabits mature hardwood and mixed pine forests in the agricultural landscapes of the Delmarva Peninsula. Suitable DFS habitat consists of large (greater than 12" dbh) hard and soft mast producing trees such as oak (*Quercus* spp.), hickory (*Carya* spp.), beech, and pine (*Pinus* spp.) (Taylor 1976). Generally, DFS prefer forest stands with large trees, an expansive canopy, and sparse understory (Taylor 1976, Dueser *et al.* 1988, Paglione 1996). The large (mature) trees provide sites for cavity and leaf nests as well as mast, while the sparse understory is thought to enhance DFS foraging efficiency. Forest edge habitat is used extensively by DFS (Taylor 1976, Flyger and Smith 1980, and Paglione 1996) and the association of agricultural fields with forest edge may play an important role in the suitability of habitat for DFS. Agricultural crops such as corn, wheat, soybeans, oats, and other crops are readily used by DFS to supplement their diet when available (Allen 1943, Brown and Yeager 1945, Bakken 1952, Taylor 1976, Paglione 1996).

Delmarva fox squirrels use tree cavities (Allen 1952, Nixon and Hansen 1987) to provide maximum safety for young (nesting) and protection from cold and wet weather (shelter). They also construct nests of leaves and twigs (Dozier and Hall 1944, Allen 1952) which may vary from small day shelters and feeding platforms to large, well insulated rearing nests (Weigl *et al.* 1989). Nests are generally found in crotches of tree trunks, in tangles of vines, on a trunk, or situated towards the ends of larger branches (B.J. Larson, Chincoteague National Wildlife Refuge, pers. comm.).

Most mating occurs in late winter and early spring (Lustig and Flyger 1976). Gestation lasts approximately 44 days (Asdell 1964) and most young are born in February, March, and April. There is a smaller breeding period and birth peak in July and August. Litter size is one to six (mean: 4 (Dozier and Hall 1944); mean: 2.25 (Lustig and Flyger 1976); mean: 1.7 (Larson 1990)). Young are dependent on their mothers for approximately 3 months (Moore 1957). To protect breeding squirrels and their young, the recommended time of year restrictions for habitat disturbance are from January 1 through May 15, and July 1 through September 15.

Diets of southeastern fox squirrels and Delmarva fox squirrels include mast from a variety of trees, pine buds, staminate cones, pine seeds, berries, fungi, and insects (Moore 1957, Ha 1983, Weigl *et al.* 1989, Larson 1990, Humphrey and Jodice 1992). During much of the year, mast from mature trees (primarily from oak, hickory, beech, walnut) is a primary component of the fox squirrel diet (Weigl *et al.* 1989). During the spring, DFS feed extensively on tree buds and flowers, and will consume large quantities of fungi, insects, fruit, seeds, and occasionally bird eggs and young (USFWS 1983). At Chincoteague National Wildlife Refuge (CHNWR), Larson (1990) found that DFS switched from reliance on pine and oak mast in the fall/early winter to heavy use of soft mast hardwoods (primarily maple) in the late winter and spring months. Like other southeastern fox squirrels, DFS feed largely on mature green pine cones during late summer and early fall until acorns and other hard mast become available in the fall (Moore 1957, Ha 1983, Weigl *et al.* 1989, Kantola and Humphrey 1990, Larson 1990). By late summer, DFS are often in poor condition due to low food availability in the spring and early summer (Kantola 1986, Weigl *et al.* 1989, Larson 1990). Further, although pine-seed crops are subject to failure, the magnitude of their year-to-year variation is not as great as acorn crops. Thus, pine seeds may be particularly important to squirrels during years of acorn mast failure (Kantola and Humphrey 1990).

Home range sizes for the DFS are related to habitat type, and variation within the subspecies is substantial. Flyger and Smith (1980) estimated mean home range size for DFS in an agricultural landscape (described as "a mixture of woodland and fields of corn or soybeans with narrow wooded strips 20-25 m wide between fields" with relatively open understory) as 30 ha, while home range for the CHNWR population varies from 1.4 to 12.8 ha, with a mean of 4.1 ha (Larson 1990). Home ranges also vary by season and sex of the animal. Male home ranges are usually larger (average 5.88 - 28.47 ha varying on location and season) than females (4.5 to 13.62 ha) (Paglione 1996). This sex variation was

especially pronounced in spring and early summer periods. Similar sexual differences in DFS home ranges were also found at CHNWR, with an average of 2.08 ha for females and 5.45 ha for males (Pednault-Willett 2002).

Home range sizes of other southeastern fox squirrels range from 9 to 19 ha for females and 20-32 ha for males (Hilliard 1979, Edwards 1986, Weigl *et al.* 1989, Kantola and Humphrey 1990). Average home ranges of southeastern fox squirrels are generally larger (>15 hectares; Hilliard 1979, Edwards 1986, Weigl *et al.* 1989) than those of midwestern fox squirrels (5 ha or less; Ha 1983). In general, this larger home range has been considered an adaptation to patchy landscapes (Ha 1983, Mace and Harvey 1983), and unpredictable seasonal food supply found in southeastern forests (Ha 1983, Weigl *et al.* 1989, Paglione 1996). Weigl *et al.* (1989) found that food supplies had the greatest influence on the ecology of southeastern fox squirrels, often affecting the size and location of their home range. Patterns of use within the home range have received relatively little study (Loeb and Moncrief 1993). However, Steele (1988) found that fox squirrels in North Carolina used much of their home range in July, but in August space use was reduced by more than 50% as squirrels began to feed extensively in selected longleaf pine trees.

Density estimates for the DFS include 0.7-0.98 DFS/ha at the CHNWR (Pednault-Willett 2002) and a range of 0.36 DFS/ha to 1.29 DFS/ha (Paglione 1996) from two sites at Blackwater National Wildlife Refuge. The high density at the Blackwater NWR site was attributed to the presence of "exceptional habitat composed of large mature pines and mixed hardwoods, with a clear understory and adjacent agricultural fields" (Paglione 1996). Density estimates for other southeastern fox squirrels vary from 8.4 squirrels/km² (0.08 squirrels/ha, Humphrey *et al.* 1985), 15.3-17.71 squirrels/km² (0.15-0.18 squirrels/ha, Tappe 1991), to 20.0 squirrels/km² (0.20 squirrels/ha, Hilliard 1979). Weigl *et al.* (1989) reported a mean density of 0.05 fox squirrels/ha (highest annual density of 0.35/ha) in North Carolina; they inferred from the low densities generally exhibited by southeastern fox squirrels, that preservation of large habitat blocks would be necessary to support viable populations. Gray squirrels, potential competitors with fox squirrels, can reach densities of 15/ha (Gurnell 1983).

Distribution and Status -- Historically, DFS were distributed throughout the Delmarva Peninsula and into southeastern Pennsylvania and southern New Jersey (Taylor 1976). At the time of listing, in 1968, the range had decreased to only 10% of its original size on the Delmarva and remnant populations occurred in only four Maryland counties: Kent, Queen Anne's, Talbot, and Dorchester. Today, remnant populations continue in those counties but are also known to occur in Caroline County Maryland and western Sussex County, Delaware (USFWS 2003) and new sightings have occurred in areas where DFS were not previously reported. Translocations have figured prominently in the recovery program. Delmarva fox squirrels have been successfully reintroduced to 11 sites within their historical range in Maryland, Delaware, and Virginia, and now occupy a total of approximately 127,000 acres of occupied habitat.

The Delmarva fox squirrel range is thus considered to be expanding. The increasing size of the species' distribution, both the remnant portions and the portions established through translocations, indicate the species occupies a greater geographic area and occurs in a larger number of sites than at the time of listing. Monitoring of seven benchmark sites, where local populations were monitored within the existing range, indicates that populations within the range are generally stable (Duesser 1999, USFWS 2003). Comparisons of landowner surveys made in 1972 and 1985 also suggest a stable trend in populations within its range. Of 54 sites originally surveyed, one previously unoccupied site gained DFS and one previously occupied site lost DFS (Therres and Willey 1988). However, the original landowner survey did not include areas where the USFWS has documented new populations of DFS. Based on the expanded range and evidence of stable populations within its range, we consider the status of DFS to be increasing.

Threats to the Species -- Timber harvest, short-rotation pine forestry, and forest conversion to agriculture and/or structural development (housing, roads, and industry) constitute threats to the DFS and their habitats. The following information concerning these and other threats is taken from the DFS Recovery Plan (USFWS 1993) and the Status and Recovery Plan Update (USFWS 2003).

The human population within DFS historical range has increased significantly in recent years and this has resulted in corresponding increases in developed land and losses of agricultural and forest land. From 1985 to 1997, in the three counties where DFS are most abundant (Queen Anne's, Talbot and Dorchester), there has been an average annual increase in 1,078 acres/year of developed land. There has been a corresponding average annual loss of 343 acres of forest and 621 acres of agricultural land per year between 1985 and 1997 (Weller and Edwards 2001). Forest acres lost to development are permanent losses for the Delmarva fox squirrel.

The acreage of timber harvest on the Delmarva fluctuates from year to year but the average of six years of data in Dorchester County was 3,558 acres per year (USFWS 2003). The acres of timberland and DFS habitat that are present in any one year are not precisely measured and a better understanding or whether this rate of harvest is sustainable is needed. The acreage in short-rotation pine plantations is not well quantified, however, 58,000 acres of timber land, previously owned and managed by the pulp industry, have recently been acquired by the State of Maryland to be managed in the future as sawtimber. This will enable DFS habitat to be established on land where frequent cutting previously prevented the growth of mature timber.

Forest pest infestations, including gypsy moths (*Lymantria dispar*) and southern pine beetles (*Dendroctonus frontalis*), also constitute a threat to DFS habitat because diseased trees die or are removed. Outbreaks tend to be localized but they can exacerbate losses of forest land.

Accidental DFS mortality is most frequently attributed to being struck by automobiles and to a limited extent by hunters who mistake DFS for gray squirrels. Although unsubstantiated, over hunting of DFS is thought to have contributed to past declines. Illegal hunting is not considered a threat at this time.

Recovery Goals and Objectives -- The following provides information on the current recovery goals and objectives for downlisting or delisting the species that are outlined in both the DFS Recovery Plan (USFWS 1993) and the DFS Status and Recovery Plan Update (USFWS 2003).

For the reclassification of the DFS from endangered to threatened, ecological requirements and distribution within the natural range must be fully understood, the seven benchmark populations must be stable or expanding for at least five years and ten new colonies must be established within the historical range. The DFS will be considered for delisting when (besides having met the reclassification criteria) the following elements have been achieved: (1) five post-1990 colonies are established outside the remaining natural range, (2) periodic monitoring shows that 80% of translocated populations have persisted over the full period of recovery, and at least 75% of these populations are not declining, (3) mechanisms that ensure perpetuation of suitable habitat at a level sufficient to allow desired distribution is in place within all counties in which the species occurs and (4) mechanisms are in place to ensure protection and monitoring of new populations, to allow for expansion, and to provide inter-population corridors to permit gene flow among populations (USFWS 1993).

The previous biological opinions completed for this species are provided in Appendix B.

ENVIRONMENTAL BASELINE

Status of Species in Action Area -- Delmarva fox squirrels occupy at least 90,252 acres of forested habitat in Dorchester County. Four adult and two immature Delmarva fox squirrels were captured in the forested parcel within the project site during a trapping effort in 2004 (trapping performed by Three-Square Wildlife Services). Occupied Delmarva fox squirrel habitat has also been identified in the majority of the forested areas within the vicinity of the project site (Map 5). Based on Service site visits, home range sizes, on-site trapping results, and adjacent sightings of DFS, the Service considers the project site appropriate habitat and occupied by DFS.

EFFECTS OF THE ACTION

Direct Effects

The project's direct effects result from the permanent clearing of 1.82 acres of DFS habitat, and the noise and disturbance associated with this action (Map 2). All forested areas with characteristics consistent with DFS habitat will be assumed occupied for this analysis. Impacts to the DFS associated with the clearing operation may result from direct mortality of individual DFS, and harm and harassment resulting in either individual take or population declines due to diminishing habitat quantity and quality. Adverse effects on DFS are expected to result from take occurring during habitat removal and from the loss of valuable habitat following clearing. Direct mortality of individuals could be greatly reduced if clearing occurs outside the breeding season, when natal squirrels are particularly vulnerable.

Habitat losses caused by residential development are usually permanent and have effects that can result in take. Adverse effects may include: increased predation, increased intra- and interspecific competition, reduced ability to disperse, intensified consequences of catastrophic events (e.g. drought, flooding, ice storms, fire, disease), decreased reproductive success, and decreased carrying capacity resulting from decreased availability of nesting and shelter sites and food.

In addition, adults and young may temporarily avoid use of habitat adjacent to clearing sites because of noise and disturbance. This may result in decreased survival and reproductive success through decreased availability of shelter sites and food.

The proposed project will contribute to loss of habitat supporting DFS nesting and foraging by clearing 1.82 acres of forested DFS habitat. However, this loss will be offset by the protection of at least 13.99 acres of occupied forested habitat on-site, and preserving 5.95 acres of occupied off-site habitat in a perpetual conservation easement to protect habitat features of value to DFS.

Indirect Effects

Degradation of habitat within 150 feet of new roads and structures -- As land-use changes affect available habitats across the landscape, populations of DFS may decrease throughout the range. Urban and suburban development precludes regeneration of forest habitats or associated agricultural foraging habitat, and DFS are not usually found in suburban or urban settings.

The project's principal indirect effects, totaling 5.79 acres, will occur where roads and structures are within 150 feet of the 26.43 acre occupied Delmarva fox squirrel habitat parcel on site (Map 2). We

anticipate that even though the 5.79 acres of degraded habitat will continue to be present (i.e. will not be cleared), the use of these acres by DFS will greatly diminish, or the survivorship of DFS in these areas will be decreased. The southwest corner of the parcel is the most likely point of ingress and egress of Delmarva fox squirrels using this property. The southern edge of this habitat parcel is currently bordered by existing development, and the remaining two sides of this triangular parcel will be surrounded by development resulting from this project. Because occupied structures are being placed immediately adjacent to forest (within approximately 50 feet) in the southwest corner of the parcel, fencing will be placed along the forest edge to maintain the integrity of the habitat. Fencing should be sufficiently tall and substantial to prevent anthropogenic passage and inhibit visual disturbance to wildlife (see inset on Map 2). Decreasing disturbance to this area increases the likelihood that DFS will use this area of passage, which will consequently increase the likelihood that this habitat parcel will remain available to the local DFS population.

Increased Physical Barriers to Dispersal and Mobility -- Roads or other physical barriers such as houses, waterways, fences, and walls may impair the mobility of DFS and make them more susceptible to direct take (mortality) due to predation or reduced access to food and water (Taylor 1976, Poole 1993, Paglione 1996). Lack of ability to disperse may lead DFS populations to exceed the carrying capacity of the available habitat, resulting in intensified intra-specific competition and a decline in general fitness and reproductive rates. Also, small isolated populations, can not be replenished by dispersing individuals from other populations and thus have a greater risk of extirpation (local extinction). The significance of the Blackwater Crossing development as a potential barrier to dispersal is currently unknown. It is assumed that DFS are currently moving across Maryland Route 16 (Church Creek Road) to areas north, although the frequency of this behavior is unknown. The placement of a major development and associated features at the northern end of this occupied parcel may decrease the likelihood of DFS movement, and thus reproductive exchange, with populations north of Route 16. Though the Blackwater Crossing development may act as physical barrier or deterrent to DFS dispersal and mobility, there is no way to be able to meaningfully measure, detect, or evaluate this effect.

Cumulative Effects -- Cumulative effects include the effects of future State, local, or private actions that are reasonably certain to occur in the action area. We are not aware of any such actions planned in the action area. Future federal actions that are unrelated to the proposed action are not considered in this biological opinion because they require separate consultation pursuant to section 7 of the ESA.

CONCLUSION

Regulations implementing Section 7(a)(2) of the ESA (50 CFR 402) require the Service to formulate its biological opinion as to whether a Federal action that is the subject of consultation, taken together with cumulative effects, is likely to jeopardize the continued existence of listed species or the adverse modification of critical habitat. "Jeopardize the continued existence of" is defined by this regulation as "to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species."

The Delmarva fox squirrel's current range encompasses 127,000 acres across eight counties in Maryland, and one county each in Delaware and Virginia (USFWS 2003). However, the large majority of DFS sites occur in the tri-county area of Queen Annes, Talbot, and Dorchester County, Maryland (USFWS 2003). Since 1999, this is the 15th non-jeopardy biological opinion anticipating take of the Delmarva fox squirrel to be completed on commercial and residential development activities (Appendix B). The 15 biological

opinions have anticipated approximately 200.91 acres of impacts that include permanent removal of DFS habitat and/or long-term degradation of habitat due to roads or use of erected structures (human activity). However, these projects also provided 346.24 acres of permanent protection of DFS habitat in the vicinity of the projects to offset these habitat losses.

The impacts associated with the proposed project were evaluated within the context of the following: the large amount of remaining suitable habitat (USFWS 2003), the relatively stable trend of DFS across their known range (USFWS 2003), the terms and conditions provided in past biological opinions that reduce the amount of take, and the fact that the DFS habitat to be lost or degraded as a result of this project represents less than 1% of Delmarva fox squirrel habitat in Maryland. Based upon these considerations, the Service concludes that approval and funding of this project, as proposed, is not likely to jeopardize the continued existence of the DFS. No critical habitat has been designated for this species; therefore, none will be affected.

III. INCIDENTAL TAKE STATEMENT

Sections 4(d) and 9 of the Endangered Species Act prohibit taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct) of listed species of fish or wildlife without a special exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. Harass is defined as actions that create the likelihood of injury to listed species to such an extent to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or seeking shelter. Incidental take is any take of listed species that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or the applicant. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered a prohibited taking provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

AMOUNT OR EXTENT OF TAKE

The Service expects incidental take of Delmarva fox squirrels as a result of this project's direct and indirect impacts will be difficult to detect, as the behavioral patterns that will inexorably be impaired or disrupted (breeding, feeding, or sheltering) would require extensive and consistent surveys to observe, and injured or killed individuals will be difficult to locate due to their small size, cryptic nature, and vagility.

The Service expects 7.61 acres of Delmarva fox squirrel habitat to be impacted as a result of the construction and subsequent use of Blackwater Crossing (Map 2). The incidental take resulting from this loss is expected to be in the form of "harm" and "harassment," as defined in the introductory passage of this incidental take statement. The removal of 1.82 acres of habitat may cause DFS to crowd into adjacent habitat, increasing risk of predation and competition for food and shelter and potentially resulting in injury or death. Additionally, vehicles and unrestrained pets can kill adults and young. This is most likely to occur to DFS living in the 5.79 acres of habitat within 150' of roads and homes. Acres of habitat lost through direct and indirect impacts will be the index measured to monitor incidental take of this species, and is not expected to exceed 1.82 acres of permanent habitat removal, and 5.79 acres of habitat degradation.

REASONABLE AND PRUDENT MEASURES

The measures described below are nondiscretionary, and must be implemented by the U.S. Army Corps of Engineers (USACE) as specified by the Terms and Conditions below so that they become binding conditions of their project approval or project agreement with Blackwater Crossing, LLC in order for the exemption in Section 7(o)(2) to apply. The USACE has a continuing duty to regulate the activity covered by this incidental take statement. If the USACE (1) fails to require the applicants to adhere to the terms and conditions of the incidental take statement through enforceable terms, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of Section 7(o)(2) may lapse. The Service considers the following reasonable and prudent measures to be necessary and appropriate to minimize take of DFS:

- (1) Cutting and clearing of trees must be conducted outside the primary DFS breeding season (January 1 to May 15 of any year) to minimize mortality to females and young.
- (2) A conservation easement for permanent protection of the off-site DFS conservation area must be finalized prior to initiation of any forest clearing activities in DFS habitat.
- (3) On-site DFS habitat must be protected, and access must be provided for future U.S. Fish and Wildlife Service or Service-approved monitoring efforts.
- (4) Service-approved forest-line fencing must be erected and maintained on-site in areas where forest protection has been determined to be critical to ensure future use by Delmarva fox squirrels.

TERMS AND CONDITIONS

In order to be exempt from the prohibitions of section 9 of the Act, the USACE and applicant must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline required reporting/monitoring requirements. These terms and conditions are non-discretionary.

- (1) Tree cutting and clearing shall not be conducted during the primary DFS breeding season (January 1 through May 15); if possible the secondary breeding season (July 1 through September 15) will also be avoided.
- (2) Prior to timber cutting or clearing of trees in DFS habitat, Blackwater Crossing, LLC shall finalize a conservation easement, to be held by a third party, and shall provide legally and financially binding assurances that at least 5.95 acres of off-site wooded DFS habitat, at a site approved by the Service, will be preserved in perpetuity as habitat for DFS (Map 6). This action will be assured by recording the conservation easement designating the protection of the habitat for the DFS in the record of deeds at the Dorchester County Lands Records Office/Courthouse in Cambridge, Maryland.
- (3) The deeds and associated conservation easement will address prohibitions on the removal of living trees, construction of permanent structures, and squirrel hunting and any other measures necessary to protect and maintain habitat for DFS in perpetuity for the off-site conservation easement. Language for the conservation easement will be submitted to and approved by the

Service before being filed. The Service must approve any changes to the terms of the conservation easement.

- (4) Within two months of the issuance of the USACE permit, an amendment to the Public Works Agreement between the owner of the property and the City of Cambridge will specify that timber harvest is prohibited in the 24.54 acre wooded Forest Conservation retention area on-site. This parcel contains 13.99 acres of undegraded DFS habitat. The language of this amendment must be approved by the Service.
- (5) Within four months of the issuance of the USACE permit, a declaration of covenants, conditions and restrictions will be recorded that identifies the purpose of the 24.54 acre wooded on-site area as habitat for Delmarva fox squirrels and that any timber harvest, tree removal or disturbance of this wooded area is prohibited. This document will also address responsibilities for maintenance of the visual barrier fence. In addition, this document will provide access for future U.S. Fish and Wildlife Service or Service-approved monitoring efforts to assess habitat conditions or DFS populations. The language of this document must be approved by the Service prior to recordation.
- (6) Visual barrier fencing shall be erected on the 1229 linear foot area immediately adjacent to the woodline at the southwest portion of the parcel on-site (Map 2). This 5 foot 11 inch high fence will have an approximately 8 inch gap at the bottom to allow small wildlife passage, will inhibit visual disturbance to a height of 5 feet 8 inches, and will sufficiently prevent anthropogenic passage. Maintenance of this fence will be described in the declaration of covenants, conditions and restrictions. Construction of this fence should be completed prior to the issuance of the first occupancy permit for Phase II.

Reporting Requirements

- In order for the Service to be kept informed of actions minimizing or avoiding adverse effects, the Service requests notification of the conservation recommendations carried out through correspondence at the address given below:

Chesapeake Bay Field Office
U.S. Fish and Wildlife Service
177 Admiral Cochrane Drive
Annapolis, MD 21401
Phone (410) 573-4550

- Upon locating a dead, injured, or sick DFS, notification must be made to nearest USFWS Law Enforcement Office at:

Division of Law Enforcement
U.S. Fish and Wildlife Service
177 Admiral Cochrane Drive
Annapolis, Maryland 21401
Phone (410) 573-4514

Care should be taken in handling sick or injured individuals and in the preservation of specimens in the best possible state for later analysis of cause of death or injury.

The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. The Service understands that no more than 1.82 acres of Delmarva fox squirrel habitat will be permanently lost, and no more than 5.79 acres of Delmarva fox squirrel habitat will be degraded, as a result of this project. If, during the course of the action, this level of habitat loss is exceeded, this loss and the associated incidental take represent new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. The Federal agency must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

V. REINITIATION - CLOSING STATEMENT

This concludes formal consultation on the action outlined in the US Army Corps of Engineers request letter dated August 17, 2006. As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary USACE involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

For this biological opinion the incidental take would be exceeded when the take exceeds that expected from removing 1.82 acres or degrading 5.79 of DFS habitat, which is what has been exempted from the prohibitions of section 9 by this opinion. The Service appreciates the cooperation of the USACE during this consultation. For further coordination please contact Mary Ratnaswamy of this office at (410) 573-4541.

Sincerely,

John Wolflin
Supervisor

Enclosures

cc: Mike Thabault, Assistant Regional Director, Ecological Services, Hadley, MA
Martin Miller, Chief, Division of Threatened and Endangered Species, Hadley, MA
Glenn Therres, Maryland Department of Natural Resources

Ken Usab, Morris, Ritchie and Associates, 404 Bedford Street, Suite 5, Georgetown, DE
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LITERATURE CITED

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Appendix A: Consultation History

<u>Date</u>	<u>Description</u>
05/04	Delmarva fox squirrel trapping effort (contractor: Three-square Wildlife Services LLC) reveals DFS presence in on-site forested areas
11/11/04	USFWS CBFO contacted and performs site visit (present: Charisa Morris, Ryan Showalter, Ken Usab)
12/14/04	First draft of general development plan received by CBFO
07/25/05	Meeting and field visit: minimization options, fencing, water features, and degradation calculations discussed (present: Chesapeake Bay Field Office/Charisa Morris, MD Department of Natural Resources/Glenn Therres, and project proponent/Ken Usab)
03/28/06	E-mail exchange re: on-site preservation options between CBFO (Charisa Morris) and project proponent (Ryan Showalter)
04/12/06	Project proponent submits Joint Permit to MDE
04/21/06	First draft of Biological Evaluation (BE) received by CBFO (dated April 17, 2006)
04/26/06	Project proponent submits Joint Permit to USACE
05/02/06	CBFO requests additional information for BE re: impact delineations and fencing.
05/04/06	Meeting between CBFO (Charisa Morris) and project proponent (Ken Usab): Forest Conservation Easement Area, fencing options, and time of year restrictions discussed
05/04/06	CBFO memo to file re: fencing as a potential barrier to degradation.
05/15/06	Contractor clears 0.8 acres of Delmarva fox squirrel habitat on project site before incidental permit issued.
05/16/06	CBFO requests that all further construction be halted until issuance of permit
05/18/06	CBFO Memo to file re: on-site vs. off-site easements. On-site FCA easement is deemed sufficient to protect DFS habitat.

05/24/06	Meeting: Plat discrepancies, minimization measures, and conservation options discussed (present: CBFO/Charisa Morris and Cherry Keller and project proponents/Ryan Showalter and Ken Usab)
05/26/06	2 nd revision of plat, BE, and Conservation Bank exhibit received by CBFO (dated May 26, 2006)
06/05/06	North American Land Trust (Steve Carter) initiates contact with CBFO (Charisa Morris) regarding the proposed Conservation Bank on Egypt Road
06/19/06	Proposed delineation of Action Area received by CBFO; project proponent requests that project site areas not identified as the project action area be allowed to legally proceed with construction activities.
06/20/06	Email: CBFO coordinates with Regional Office regarding acceptable language for construction clearance in areas outside of the action area.
06/22/06	Email: CBFO to Project proponent – CBFO confirms USACE is ready to initiate consultation, but a plat that accurately reflects impacts must be included in initiation package; therefore, project proponents must resubmit an accurate plat and BE
06/22/06	CBFO sends Take Summary to US Army Corps of Engineers (USACE)
06/28/06	Meeting: CBFO (Charisa Morris and Mary Ratnaswamy) draft and sign plat language that allows project areas outside of USFWS delineated action area to proceed legally with construction.
07/05/06	3 rd revision of plat and BE received by CBFO (dated June 26, 2006)
07/10/06	USFWS approved delineation of Action Area received by CBFO; project site areas not identified as the project action area can legally proceed with construction activities.
07/17/06	4 th and final revision of plat and BE received by CBFO (dated July 11, 2006)
08/28/06	CBFO receives USACE request to initiate formal consultation (dated 8/17/06)
08/28/06	CBFO responds to USACE with a “receipt of initiation” letter, stating the 135 day due date of January 17, 2007.

Appendix B: Previous biological opinions completed for Delmarva fox squirrel (*Sciurus niger cinereus*) by the Chesapeake Bay Field Office.

PROJECT ID	COUNTY	STATE	YEAR	Approximate ACRES TAKEN
<i>CBFO-TE-S7-MP</i>	<i>Dorchester</i>	<i>MD</i>	<i>1999</i>	<i>1.25</i>
<i>CBFO-TE-S7-HP</i>	<i>Queen Annes</i>	<i>MD</i>	<i>1999</i>	<i>19</i>
<i>CBFO-TE-S7-05-003:FTC</i>	<i>Queen Annes</i>	<i>MD</i>	<i>1999</i>	<i>15</i>
<i>CBFO-TE-S7-05-081:CA</i>	<i>Dorchester</i>	<i>MD</i>	<i>1999</i>	<i>16</i>
<i>CBFO-TE-S7-IM</i>	<i>Talbot</i>	<i>MD</i>	<i>2000</i>	<i>11.38</i>
<i>CBFO-TE-S7-BC</i>	<i>Talbot</i>	<i>MD</i>	<i>2000</i>	<i>6.93</i>
<i>CBFO-TE-S7-BN</i>	<i>Dorchester</i>	<i>MD</i>	<i>2001</i>	<i>12</i>
<i>CBFO-TE-S7-CNWR</i>	<i>Accomack</i>	<i>VA</i>	<i>2001</i>	<i>10.37</i>
<i>CBFO-TE-S7-05-028:SF</i>	<i>Talbot</i>	<i>MD</i>	<i>2004</i>	<i>4.65</i>
<i>CBFO-TE-S7-05-029:SC</i>	<i>Talbot</i>	<i>MD</i>	<i>2004</i>	<i>15.22</i>
<i>CBFO-TE-S7-05-013:EV</i>	<i>Talbot</i>	<i>MD</i>	<i>2005</i>	<i>12.15</i>
<i>CBFO-TE-S7-05-004:EA</i>	<i>Talbot</i>	<i>MD</i>	<i>2005</i>	<i>7</i>
<i>CBFO-TE-S7-05-008:USF</i>	<i>Queen Annes</i>	<i>MD</i>	<i>2005</i>	<i>69.7</i>
<i>CBFO-TE-S7-05-106: FC</i>	<i>Dorchester</i>	<i>MD</i>	<i>2006</i>	<i>9.1acres</i>
			<i>TOTAL=</i>	<i>200.91 acres</i>
<i>CBFO-TE-S7-05-104: BC</i>	<i>Dorchester</i>	<i>MD</i>	<i>2006</i>	<i>+ 7.61 = 208.52</i>

FWS Log No: *CBFO-TE-S7-05-104*
Date Started: *11/08/04*
Ecosystem: *CB/SR*
Applicant: *Duane Zentgraf*
Blackwater Crossing, LLC.
2015 Pig Neck Road
c/o Morris, Ritchie, and Associates
404 S. Bedford Street, Suite 5
Georgetown, DE 19947
Action Agency: *US Army Corp of Engineers*
Project Title: *Blackwater Crossing*
County: *Dorchester County*

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